PATENT

Atty. Docket No.: FUSI-04105

AF 2165

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Multer et al.

Serial No.: 09/753,537

Filed: January 2, 2001

For: **BINARY DATA SYNCHRONIZATION ENGINE**

Group Art Unit: 2165

Examiner: Abel Jalil, Neveen

TRANSMITTAL LETTER

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Sir:

A Reply Brief in Response to the Examiner's Answer mailed on September 26, 2008, is enclosed for filing with the U.S. Patent and Trademark Office.

The Commissioner is authorized to charge any additional fee or credit any overpayment to our Deposit Account No. 08-1275.

Respectfully submitted,

HAVERSTOCK & OWENS LLP

Dated: 11-19-08

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Date: 11-19-08 **By:**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Group Art Unit: 2165
Multer et al.	Examiner: Abel Jalil, N.
Serial No.: 09/753,537	**REPLY BRIEF IN RESPONSE TO EXAMINER'S ANSWER**
Filed: January 2, 2001	
For: **BINARY DATA SYNCHRONIZATION ENGINE**	162 N. Wolfe Rd. Sunnyvale, CA 94086 (408) 530-9700
	Customer No. 28960

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In reply to the Examiner's Answer mailed on September 26, 2006, this Reply Brief is hereby submitted to the Board of Patent Appeals and Interferences in compliance with the requirements of 37 C.F.R. § 41.41. Claims 80-89 and 109-116 (including the independent claims 80, 109 and 116) have been rejected.

The Examiner has improperly rejected Claims 80-87, 90 and 109-116 under 35 U.S.C. §102. Furthermore, Claims 88 and 89 have been improperly rejected under 35 U.S.C. §103.

Appellants contend that the rejection of Claims 80-87, 90 and 109-116 under 35 U.S.C. §102 is in error and should be overcome by the appeal in the application referenced above. Additionally, the rejection of Claims 88 and 89 under 35 U.S.C. §103 is in error and should be overcome by the appeal in the application referenced above. In view of the foregoing, Appellants respectfully submit this Reply Brief, wherein:

STATUS OF THE CLAIMS

Claims 80-89 and 109-116 are pending in this case.

Claims 80-87, 90 and 109-116 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,321,236 to Zollinger et al. (hereinafter "Zollinger").

Claim 88 stands rejected under 35 U.S.C.§103(a) as being unpatentable over Zollinger in view of U.S. Patent No. 5,519,433 to Lappington et al. (hereinafter "Lappington").

Claim 89 stands rejected under 35 U.S.C.§103(a) as being unpatentable over Zollinger in view of U.S. Patent No. 5,574,906 to Morris (hereinafter "Morris").

Within the Appeal Brief, Claims 80-89 and 109-116 are appealed.

GROUNDS OF REJECTION AND MATTERS TO BE REVIEWED ON APPEAL

The following issues were presented in the Appeal Brief for review by the Board of Patent Appeals and Interferences:

1. Whether Claims 80-87, 90 and 109-116 are properly rejected under 35 U.S.C. §102(e) as being anticipated by Zollinger.
2. Whether Claims 88 is properly rejected under 35 U.S.C. §103(a) as being unpatentable over Zollinger in view of Lappington.
3. Whether Claims 89 is properly rejected under 35 U.S.C. §103(a) as being unpatentable over Zollinger in view of Morris.

ARGUMENT

I. SUMMARY OF THE CLAIMED INVENTION

The invention disclosed in the present application number 09/753,537 is directed to a system discerning specific changes that have occurred to a file, and using the changes to accomplish synchronization of the files on the user's various devices. As taught in the present specification, an application object 910 (Fig. 9A) maps data from proprietary applications 810 into a "universal" data structure which may be used by the device engine components to generate binary differencing data. An Application Object Store (AOS) 920 includes a copy of the device's data at a point just after the previous data extraction and synchronization occurred. The generic output of the application object is provided to a delta module 950. The delta module 950 is a differencing engine which calculates differences in data between the output of the application object 910 and the copy of the data which is provided in AOS 920. The delta module outputs binary differencing data. The binary differencing data may be sent to a sync server (such as 980 and 982 in Fig. 9B). Other devices may link to the sync servers to download the binary differencing data which indicates changes to be made in order to synchronize the data. As also taught in the present specification, the Application Object maps the party application data fields to the system's domain. Moreover, a field mapping module 935 allows for a user to re-map certain interpretations of items. In simplified terms, the data is stored once. As changes are made, only the differences are transmitted and stored. This allows a current copy of a user's data to be backed up without requiring the transmission of an entire data store for each change. This results in a significant efficiency improvement.

Each of the claims being appealed recites that, in addition to binary differencing data, at least one data field type is also stored and/or output to an output device. As will be discussed in detail below, the cited references do not disclose, teach, or even suggest a system which stores and/or outputs both binary differencing data and at least one data field, when either taken alone or in combination.

II. THE CLAIMS 80-87, 90 AND 109-116 ARE NOT ANTICIPATED BY ZOLLINGER UNDER 35 U.S.C. §102(e).

A. Claims 80-87 and 90

Specifically, Claims 80-87 and 90 each expressly recite features that are not disclosed, taught or suggested in Zollinger. Independent Claim 80 recites in part:

> a transaction generator, implemented on a processing device, providing at least one binary difference transaction including said binary differencing data and at least one data field type to an output for forwarding to a network coupled storage server, the server using the binary differencing data to synchronize at least one other network coupled processing device. (Claim 1)

Zollinger does not teach a transaction generator providing at least one binary difference transaction including said binary differencing data and at least one data field type to an output for forwarding a network coupled storage server.

Instead, Zollinger teaches a method and system that allows changes made to an original database table found on a server computer to be reflected in client copies of the database based on intermittent client requests for synchronization. [Zollinger, Abstract] A reference table is maintained so that changes to the current table may be measured against a know state. A version identifier is associated with the reference table that is subsequently incremented as the reference table is changed. A differencing engine takes as input the current table and the reference table to compute the differences between the two tables. The output of the differencing engine produces a series of updates. [Zollinger, col. 6, lines 53-65] The server synchronizer component is responsible for sending the initial database copy to one or more clients and updating or synchronizing the client's copy of the database table whenever a client connects to the server and requests such update or synchronization. [Zollinger, col. 7, lines 14-18] When a client connects with the server synchronizer component, it will identify itself through some form of identifier in a synchronization request. The server synchronizer component will access a profile database to validate the client. The server synchronizer component will also communicate with a translator component, which translates the table differences from one format to a format specific to the type of database engine found on the client. Database information is accessed by the translator component according to the type of database engine found on the client. [Zollinger, col. 8, lines 6-42] Alternatively, the client tracks its own database engine type, current version of a client copy of client database table and notifies the server synchronizer component of these parameters

in the synchronization request. [Zollinger, col. 8, lines 52-56] However, Zollinger does not teach a transaction generator providing at least one binary difference transaction including said binary differencing data and at least one data field type to an output for forwarding to a network coupled storage server.

Within Examiner's Answer, the Examiner again has cited sections of Zollinger as teaching a transaction generator providing at least one binary difference transaction including said binary differencing data and at least one data field type to an output for forwarding to a network coupled storage server. Specifically, the cited sections of Zollinger include col. 3, lines 45-56; col. 10, lines 45-65; col. 12, lines 9-14 and col. 12, lines 41-56. (Examiner's Answer, page 4) However, as explained previously, there is no teaching within these cited sections of Zollinger of a transaction generator providing at least one binary difference transaction including said binary differencing data and at least one data field type to an output for forwarding a network coupled storage server. The cited sections of Zollinger merely teach storing changes in a generic format which can be translated to specific database engine instructions depending on the type of database engine, the client initially receiving a client copy of the a database table having a particular version identifier, determining the state of the client copy of the database tables and the version number, and the client having at least one database engine for creating and managing database tables. Therefore, within the cited sections of Zollinger, there is nothing that teaches providing at least one binary difference transaction including said binary differencing data and at least one data field type. Since a reference must teach every element of a claim for a rejection under 35 U.S.C. §102 to be proper, clearly, the rejection of the claimed invention based on Zollinger is improper since Zollinger does not teach every element of the claimed invention.

In the Response to Argument section of the Examiner's Answer, it is stated that in reading various pages of the specification, particularly on pages 20, 23, and 29, it is unclear from reading the various referenced pages and the broad language of the claim how the term "data field type" is different from Zollinger's column 10, lines 45-65, Zollinger's column 12, lines 9-14, and Zollinger's column 12, lines 41-56. (Examiner's Answer, page 10) Applicants assume the Examiner is referring to page 19 instead of page 20 in regards to the passage "Each device engine performs mapping and translation steps necessary for applying the data packages to the local format required for that type of information in the application data stores."

As explained in the specification, difference information is provided in one or more data packages. [Present Specification, page 19, lines 8-9] Particularly, the Application Object (AO) extracts data of each application in the device and converts it to a universal data format. The delta module then generates a difference set by comparing the output of the AO and the

Application Object Store (AOS). The difference information is forwarded to the encryption and compression routines for output to the storage server in the form of a data package. [Present Specification, page 21, lines 22-28] Each AO has a connector; the connector provides access for the AO to remove the data field from a particular application and convert it to a universal record structure. [Present Specification, page 29, lines 10-22] Each AO is a software component that interfaces with third party APIs to provide the programming services to the delta module for extraction and deposition of information data from and to the third party application domain during synchronization. In addition, the AO maps the third party application data fields to system's domain. [Present Specification, page 30, lines 4-9] Each AO component comprises a set of objects that translate the third party application data into the universal data middle format which underpins the entire spectrum of PIM data regardless of which third party application the data comes from. The objects in universal data format are device, (application) data class, store, folder, item and data fields. The AO receives the third party application data of any kind and reduces it into a few handful simple objects and field types. These objects and field types are input to StructuredDelta (delta module) engine and are compared by StructuredDelta in order of their hierarchy. The resulting differences are logged as transactions in the difference information. The data packs are transported to the storage server. [Present Specification, page 31, lines 15-27] Each data package describes changes to any and all transfer information across all device engines. Each device engine can control the download of data packages that include classes of information that apply to the specified local device. Each device engine performs mapping and translation steps necessary for applying the data packages to the local format required for that type of information in the application data stores. [Present Specification, page 19, lines 8-29]

Also as explained in the specification, the device engine includes a field mapping module. The field mapping module allows for the user to re-map certain interpretations of items which were provided in the document stream. [Present Specification, page 23, lines 6-9] As such, the mapping module allows the user to direct the output of the data package or map data fields to a different application.

In comparison, referenced sections of Zollinger do not teach providing at least one binary difference transaction including said binary differencing data and at least one data field type. Instead, Zollinger teaches teach storing changes in a generic format. Particularly, the format includes a change-type indicator separated by a ":" followed by a location field separated by a "=>" followed by the data of the change itself. The location field of Zollinger indicates which

row and/or column is being changed. As such, the *location field* of Zollinger is different from the *data field type* of the present invention.

Further, even if the location field of Zollinger can be interpreted as a data field type, Zollinger does not teach providing at least one binary difference transaction including said binary differencing data and at least one data field type to an output for forwarding to a network coupled storage server. Instead, Zollinger teaches that the differencing engine takes as input the current table and the reference table to compute the differences between the two tables. The output of the differencing engine produces a series of updates. After an update is made and stored as part of the series of update, the current table is copied to the reference table so that the next update in the series will contain only those changes since the previous update. The server synchronizer component sends the initial database copy to one or more clients and updates or synchronizes the client's copy of the database table whenever a client connects to the server and requests such update or synchronization. [Zollinger, Figure 1] As such, Zollinger does not teach providing at least one binary difference transaction including said binary differencing data and at least one data field type to an output for forwarding to a network coupled storage server.

Accordingly, Zollinger does not teach every element of the claimed invention, and thus, the rejection of Claims 80-87 and 90 should be withdrawn.

B. Claims 109-115

Similarly, independent Claim 109, with dependent Claims 110-115, recites in part:

> a transaction generator, implemented on a processing device, providing at least one transaction including said binary differencing data and at least one data field type to an output of the network coupled storage server, the server using the binary differencing data to synchronize at least one other network coupled processing device. (Claim 109)

Again, Zollinger does not teach a transaction generator providing at least one transaction including said binary differencing data and at least one data field type to an output of the network coupled storage server. Therefore, Zollinger does not teach every element of the claimed invention, and thus, the rejection of Claims 109-115 should be withdrawn.

C. Claim 116

Similarly, independent Claim 116 recites in part:

> a storage device coupled to the first and the second network coupled devices storing binary differencing data and at least one data field type from, and outputting binary differencing data and at least one data field type to, said at least first and second binary differencing engines. (Claim 116)

As discussed above, Zollinger does not teach a storage device storing binary differencing data and at least one data field type from, and outputting binary differencing data and at least one data field type to, said at least first and second binary differencing engines.

Claim 116 further recites in part:

> at least a first binary differencing engine coupled to a first network coupled device;
> at least a second binary differencing engine coupled to a second network coupled device. (Claim 116)

Although Zollinger teaches that each client has a client database and as indicated by the Examiner, Zollinger does not teach that each client has a differencing engine. Applicants respectfully submit that a differencing engine is different from a client database. A differencing engine calculates differences in data. The differencing engine of Zollinger is in the server, not in the client. As such, Zollinger does not teach at least a first binary differencing engine coupled to a first network coupled device. Zollinger also does not teach at least a second binary differencing engine coupled to a second network coupled device. Therefore, Zollinger does not teach every element of the claimed invention, and thus, the rejection of Claim 116 should be withdrawn.

III. THE CLAIM 88 IS PATENTABLE OVER ZOLLINGER IN VIEW OF LAPPINGTON UNDER 35 U.S.C. §103(a).

Within the Office Action, Claim 88 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Zollinger in view of Lappington. Applicants traverse this rejection.

Claim 88 is dependent upon the independent Claim 80. As discussed above, the independent Claim 80 is allowable over the teachings of Zollinger. Accordingly, Claim 88 is also allowable as being dependent upon an allowable base claim.

IV. THE CLAIM 89 IS PATENTABLE OVER ZOLLINGER IN VIEW OF MORRIS UNDER 35 U.S.C. §103(a).

Within the Office Action, Claim 89 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Zollinger in view of Morris. Applicants traverse this rejection.

Claim 89 is dependent upon the independent Claim 80. As discussed above, the independent Claim 80 is allowable over the teachings of Zollinger. Accordingly, Claim 89 is also allowable as being dependent upon an allowable base claim.

V. CONCLUSION

The claims pending within this appeal include limitations not taught by Zollinger. Each of the claims include limitations providing at least one binary difference transaction including said binary differencing data and at least one data field type. Claims 80-89 further include a limitation to an output for forwarding to a network coupled storage server. Claim 116 further includes limitations at least a binary differencing engine coupled to a first network coupled device and at least a second binary differencing engine coupled to a second network coupled device. As described above, Zollinger does not teach these limitations. In view of the foregoing, it is respectfully submitted that Claims 80-89 and 109-116 (including the independent Claims 80, 109 and 116) are allowable over the teachings of the cited references. Therefore, review of this appeal and a favorable indication is respectfully requested.

Respectfully submitted,
HAVERSTOCK & OWENS LLP

Dated: 11-19-08

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CERTIFICATE OF MAILING (37 CFR§ 1.8(a))
I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the U.S. Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the: Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450

HAVERSTOCK & OWENS LLP.

Date: 11-19-08 By: [signature]